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"PATENT"

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Stuart S. Goldstein et al.) Before the Examiner
U. S. Serial No.: 10/690,801)
Filed: October 22, 2003) Confirmation Number: 5620
Title: Method for Revamping Fixed-Bed Catalytic) Group Art Unit: 1764
Reformers) Family Number: P2002J095 US2

Commissioner for Patents
P. O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

CERTIFICATION OF MAILING		
I hereby certify that I have a reasonable basis for believing that this correspondence will be deposited with the United States Postal Service as first class mail in an envelope addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231, on August 2, 2004.		
Martha L. Everett	<i>Martha L. Everett</i>	August 2, 2004
Type or print name of person signing certification	Signature	Date

INFORMATION DISCLOSURE STATEMENT
PURSUANT TO 37 CFR 1.98 AND 1.97

Submitted herewith is the Information Disclosure Statement for the above application.

The Information Disclosure Statement is filed (per checked box(es)):

- ☐ Pursuant to 37 CFR 1.97(b) **(Check One)**; no fee is due:
- ☐ (1) Within three months of the filing date of a national application other than a continued prosecution application under 37 CFR 1.53(d); **or**
- ☐ (2) Within three months of the date of entry of the national stage as set forth in 37 CFR 1.491 in an international application; **or**
- ☒ (3) Before the mailing of a first Office action on the merits; **or**
- ☐ (4) Before the mailing of a first Office action after the filing of a request for continued examination under 37 CFR 1.114.



27810
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- ☐ Pursuant to 37 CFR 1.97(c): After the period specified in 37 CFR 1.97(b), but before the Mailing date of any final action under 37 CFR 1.113, a notice of allowance under 37 CFR 1.311 or an action that otherwise closes prosecution in the application and is accompanied by one of: **(Check One)**
- ☐ (1) A statement as specified in 37 CFR 1.97(e) **(See Statement Below)**; or
- ☐ (2) The fee set forth in 37 CFR 1.17 (p).
- ☐ Pursuant to 37 CFR 1.97(d): after the period specified in 37 CFR 1.97(c), but on or before Payment of the issue fee and accompanied by **both**: (1) A statement as specified in 37 CFR 1.97(e) **(See Statement Below)**; and (2) The fee set forth in 37 CFR 1.17(p).
- ☐ Statement under 37 CFR 1.97(e): **(Check One)**
- ☐ (1) Each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement; or
- ☐ (2) No item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement.

The Commissioner is authorized to charge Deposit Account 05-1330 for any fees due.

Respectfully submitted,



Attorney for Applicants
Malcolm D. Keen
Registration No. 27,728
Telephone No. (703) 846-7795
Facsimile No. (703) 846-7799

ExxonMobil Research and Engineering Company
P.O. Box 900
Annandale, New Jersey 08801-0900

MDK:mle
August 2, 2004

P2002J095



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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: Stuart S. Goldstein et al
U. S. Serial No. 10/690,801
Filed: 22 October 2003
For: Method for Revamping Fixed Bed Catalytic Reformers
Conf. No.: 5620
Group Art Unit: -
Examiner: -

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Information Disclosure Statement

Sir:

The references cited in the attached PTO Form 1449 are relevant to the examination of this application.

US Patents Nos. 5,190,638; US 5,196,110; US 5,211,838; US 5,221,463; US 5,354,451 and US 5,368,720 disclose reforming units which combine fixed and moving bed reactors. In these units, the regeneration mode which is used is appropriate to the reactor types used in the hybrid configuration, so that the fixed bed reactors have retained the fixed bed type regeneration, usually semiregenerative, and the moving bed reactors in the unit retain the dedicated moving bed regenerator.

The reforming unit described in US 5,417,843 uses two trains of fixed bed reactors with each train having a final moving bed reactor at the end and the moving bed reactors sharing a moving bed regenerator.

The reforming unit shown in US 5,190,639 uses two trains of fixed bed units feeding into a shared moving bed reactor with its own dedicated, fully integrated regenerator.

US 4,498,973 describes a moving bed reforming unit in which two moving bed reactor stacks share a common regenerator.

US 5,854,162 discloses an offsite regeneration process for precious metal catalysts such as reforming catalysts.

EP 0 638 115 describes a catalytic fixed bed reforming process in which the regeneration step may be carried out either in situ or ex situ the reactor (column 3, lines 47-54).

GB 2 002 255 describes a catalytic reforming process which uses different catalysts in different reactors and a common regenerator which is operated in blocked fashion with each catalyst in turn.

NPRA Paper No. AM-80-51 "Off-Site Regeneration of Refining Catalysts" (undated but presumed to be 1980) discloses offsite catalyst regeneration and Table 2 adverts to the possibility of carrying out offsite regeneration of a reforming catalyst.

NPRA Paper No. AM-89-47 "Conversion of Fixed Bed Reformers to UOP CCR Platforming Technology" (undated but presumed to be 1989) discloses the conversion of fixed bed reforming units to the UOP Platforming™ Process with Continuous Catalyst Regeneration (CCR).

NPRA Paper No. AM-96-50 "IFP Solutions for Revamping Catalytic Reforming Units" (1996 NPRA Annual Meeting, 17-19 March 1996) discloses hybrid reforming units using combinations of fixed bed and moving bed reactors similar to those disclosed in the US patents first cited above. See also the page on Dualforming Plus on the web site www.axens.net.

NPRA Paper AM-03-93 (NPRA 2003 Annual Meeting) discloses the recently announced UOP CycleX™ Process for increased hydrogen production from a fixed bed reforming unit by the addition of a circulating catalyst reactor as the final reactor in the reactor sequence. This reactor is provided with its own heater and regenerator as an expansion of existing assets rather than as a substitution of them.



For the Applicants,

Attorney for Applicant(s)

Registration No. 27,728

Telephone Number: (703) 846-7795

Facsimile Number: (703) 846-7799

ExxonMobil Research and Engineering Company
P. O. Box 900
Annandale, NJ 08801-0900

Date of Transmission

2 August 2004

I certify that this paper is being deposited as first class mail with the United States Postal Service on the date indicated above, addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

MARTHA L. EVERETT

(Name of person transmitting paper)

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